UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

22801   7590   05/14/2008

LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER
HU, JINSONG

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 05/14/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,375	10/30/2003	Zhangwei Xu	MS1-1646US	7891

TITLE OF INVENTION: MULTICAST TRANSFER RATE PROBE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1440	$300	$0	$1740	08/14/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Page 1 of 3

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: <u>Mail</u> Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or <u>Fax</u> (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22801   7590   05/14/2008

LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,375	10/30/2003	Zhangwei Xu	MS1-1646US	7891

TITLE OF INVENTION: MULTICAST TRANSFER RATE PROBE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1440	$300	$0	$1740	08/14/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
HU, JINSONG	2154	709-247000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)

☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,375	10/30/2003	Zhangwei Xu	MS1-1646US	7891

22801	7590	05/14/2008

LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER
HU, JINSONG

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 05/14/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 986 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 986 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/697,375	XU ET AL.
	Examiner	Art Unit	
	JINSONG HU	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *interviewwith attorney on 5/1/08*.

2. ☒ The allowed claim(s) is/are *16-31, 33-19, 42-44 and 46-49, now as 1-30*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

           International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
    Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears bellow. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as proved by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2.   Authorization for this Examiner's Amendment was given in a telephone interview with Mr. David S. Thompson (Reg. No. 37,954) on May 1, 2008.

In the Specification:

Please amend paragraph 31 on page 7 of specification as follow:

[0031] A "processor-readable storage medium," as used herein, can ~~be any means that can~~ contain, store, communicate~~, propagate,~~ or transport instructions for use by or execution by a processor. A processor-readable storage medium can be, without limitation, an electronic, magnetic, optical, electromagnetic~~, infrared,~~ or semiconductor system, apparatus[[,]] or device~~, or propagation medium. More specific examples of a~~ A processor-readable storage medium may include~~, among others,~~ an electrical connection having one or more wires, a portable computer diskette, a random access memory (RAM), a read-only memory (ROM), an erasable programmable-read-only memory (EPROM or Flash memory), an optical fiber, a rewritable compact disc (CD-RW), [[and]] or a portable compact disc read-only memory (CDROM).

In the Claims:

Please cancel claims 1-15 and 40-41.

Please amend claims 16-28, 30, 42-44 and 46-49 as follow:

Claim 16.   (Currently Amended) A processor-readable storage medium comprising processor-executable instructions for:

sending test data from a server to a client, wherein the test data comprises a first portion of an image sent at a first rate, and a second portion of the image sent at a second rate;

varying an amount of the test data sent to balance reliability and cost;

receiving the test data, sent by the server, at clients located on a network; calculating a value for R_i based at least in part on a rate at which the test data was received by each client;

dividing the clients into at least two groups, comprising first and second groups of clients, wherein the first group of clients was able to receive the test data faster than the second group of clients based on the R_i values; and

opening first and second multicast sessions with the first and second groups, respectively, wherein a transmission rate R_0 of the first session is higher than a transmission rate R_0 of the second session.

Claim 17.   (Currently Amended) The processor-readable storage medium as recited in claim 16, wherein the test data was received during a reliable multicast session.

Claim 18.   (Currently Amended) The processor-readable storage medium as recited in claim 16, wherein receiving the test data comprises instructions for:

receiving an initial transmission of the test data;

setting a timer; and

receiving additional test data until the timer expires.

Claim 19.   (Currently Amended) The processor-readable storage medium as recited in claim 16, wherein receiving the test data comprises instructions for receiving a portion of the image at an initial transfer rate.

Claim 20.   (Currently Amended) The processor-readable storage medium as recited in claim 16, wherein receiving the test data comprises instructions for:

decrypting and decompressing the initial transmission of the test data; and

writing the decrypted and decompressed test data to a disk.

Claim 21.   (Currently Amended) The processor-readable storage medium as recited in claim 16, wherein sending the R_i comprises instructions for sending a UDP packet to the server.

Claim 22.   (Currently Amended) The processor-readable storage medium as

recited in claim 16, wherein sending the rate R_i comprises instructions for sending data-

transfer statistics including the rate R_i to the server in a UDP packet.

Claim 23.   (Currently Amended) The processor-readable storage medium as

recited in claim 16, wherein calculating the rate R_i comprises instructions for setting the

rate R_i equal to an average rate at which data was received.

Claim 24.   (Currently Amended) The processor-readable storage medium as

recited in claim 16, wherein calculating the rate R_i comprises instructions for setting rate

R_i equal to a minimum rate at which data was received.

Claim 25.   (Currently Amended) The processor-readable storage medium as

recited in claim 16, wherein calculating the rate R_i comprises instructions for:

setting the rate R_i as a function of the rate at which data was received; and

de-rating the rate R_i to result in a safer value.

Claim 26.   (Currently Amended) The processor-readable storage medium as

recited in claim 16, additionally comprising instructions for receiving an image at a rate

R_0 during a first multicast session if R_0 is less than R_i.

Claim 27. (Currently Amended) The processor-readable storage medium as recited in claim 26, additionally comprising instructions for receiving the image during a second multicast session if R_0 is more than R_i.

Claim 28. (Currently Amended) A method for determining a transfer rate to multicast an image, comprising:

sending test data from a server to a plurality of clients, wherein the test data comprises a first portion of an image sent at a first rate, and a second portion of the image sent at a second rate, and wherein the sending allows varying an amount of the test data sent to balance reliability and cost;

calculating R_i values for at least some of the plurality of clients based at least in part on rate of receipt of the test date;

sending the R_i values from each of the plurality of clients to the server for each of the first and second portions of the test data;

dividing the clients into at least two groups, wherein the groups are based on faster and slower values of the calculated R_i;

opening first and second multicast sessions with first and second groups of clients, respectively; and

calculating first and second rates R_0 at which to send the image from the server to the first and second groups, wherein the rates R_0 are a function based at least in part on at least some of the R_i values, and one of the rates R_0 is faster than the other.

Claim 30.   (Currently Amended) The method as recited in claim 28, wherein

sending test data comprises:

sending an initial transmission of <u>the</u> test data from the server;

setting a timer on the server;

receiving the initial transmission of the test data on each client;

setting a timer on each client;

sending additional test data until the timer on the server expires.

Claim 42.   (Currently Amended) A <u>method of determining a transfer rate to</u>

<u>multicast an image from a</u> server, comprising:

~~means for~~ sending test data to a plurality of clients, wherein the test data

comprises first and second portions of an image which are sent to the plurality of clients

at first and second data transfer rates, wherein ~~the means for~~ sending test data allows

varying an amount of test data sent to balance reliability and cost;

~~means for~~ receiving a rate R_i, from each of the plurality of clients, wherein the R_i

are based at least in part on a rate at which the test data was received by each of the

plurality of clients;

dividing the plurality of clients into at least two groups, comprising first and

second groups of clients, wherein the first group of clients was able to receive data

faster than the second group of clients;

~~means for~~ calculating first and second data transfer rates R_0, for each of first and

second <u>multicast sessions; and</u>

~~at which to send~~ <u>opening</u> the first and second multicast sessions, within which

the image <u>is sent</u> to the first and second groups of clients, respectively, wherein the

rates R_0 are a function of the R_i, and the first R_0 is faster than the second R_0.

Claim 44.   (Currently Amended) The [[server]] <u>method</u> as recited in claim 42,

wherein ~~the means for~~ calculating the R_0 comprises ~~means for~~ setting the rate R_0 equal

to a minimum value of the rate R_i for all i.

Claim 46.   (Currently Amended) The [[server]] <u>method</u> as recited in claim 42,

wherein ~~the means for~~ sending test data ~~is configured to send~~ comprises sending:

   a selected percentage of the image;

   a selected amount of data obtained from the image; or

data obtained from the image of a size calculated for transmission within a selected

period of time.

Claim 47.   (Currently Amended) The [[server]] <u>method</u> as recited in claim 42,

additionally comprising ~~means for~~ sending the image at the rate R_0 during a first

multicast session.

Claim 48.   (Currently Amended) The [[server]] <u>method</u> as recited in claim 42,

wherein ~~the means for~~ receiving the rate R_i comprises:

~~means for~~ setting a timer to indicate a maximum period of time during which to

wait for a response from the plurality of clients; and

~~means for~~ receiving data-transfer statistics from the at least some of the plurality

of clients within the maximum period.

Claim 49.   (Currently Amended) The [[server]] method as recited in claim 42,

wherein ~~the means for~~ sending test data comprises ~~means for~~ setting a timer to indicate

a maximum period of time during which to send the test data to the plurality of clients.

Conclusion

3.   Any comments considering necessary by applicant must be submitted no later

than the payment of issue fee and, to avoid processing delays, should preferably

accompany the issue fee.

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jinsong Hu whose telephone number is (571) 272-3965.

The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number

for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jinsong   Hu/

Primary Examiner, Art Unit 2154

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination
	10/697,375	XU ET AL.
	Examiner	**Art Unit**	
	JINSONG HU	2154	